Office Memorandum • UNITED STATES GOVERNMENT

TO : Assistant Director for Research & Reports DATE:

FROM : [redacted] 25X1A9a

SUBJECT: Task Force I: Electric Power.

1. The opening statement of the report that "primary consideration is given to the fact that it is to serve as an instrument; to determine the extent of the firm and factually supported knowledge of the subject and to disclose the principal weaknesses and gaps in the total knowledge of the subject" is departed from immediately by the proposal to use the broad subject of the Electric Power Industry in the USSR "as brief background for a more detailed study of the Industry - in the Urals Industrial Region." The capacity of the latter region is about 15 percent (3,000,000 KW in 1950) only of the USSR total. The study of this particular area is of great interest but, of course, is not a substitute for a comprehensive study of the Electric Power Industry in the USSR as a whole. It would be more significant to emphasize electric power production and allocation of the principal industrial region which is mainly west of the Urals, but which includes the latter as well as a short distance to the east. This area comprises about 75 percent of USSR industry. This study would also include the desirable objective of a discussion of "the location of large concentrations of power, the extent of their physical inter-connection, and the uses to which it is put" in connection with military and economic potentials and vunerabilities. Also, an attempt should have been made to list major installations, their locations and distribution and uses to show their importance in the industrial economy as well as to indicate strategic vunerability.

2. The KWH output for 1950 is given as accurate within the range of 82 billion KWH (Plan) to 90 billion KWH; and the capacity at 20 million KW (Plan - 22.4 million KW). The latest official claim (Bulganin and Moscow Embassy) for production is 90 billion KWH. Since all these are official Soviet statistics, it is suggested that some kind of independent consistency test be made to narrow the range of the estimate.

3. It is admitted in the report that there is a "weakness in our ability to firmly assess the postwar and present day situation" and "a complete lack of definitive figures on total capacity in KW and production in KWH, thus forcing a resort to computations based on information from Soviet sources stated in terms of percentages or indices." Since this situation is so thoroughly recognized it would appear that the next best thing is to utilize all available information to make estimates for production as well as requirements for the entire industry (as has already been done successfully in IM-181) and to arrive at the results by as many independent paths as is possible and then to follow up by successive approximations to the most probable answers for the future. Distribution of stations including location, capacity, and type (i.e. whether

thermal or hydro) particularly the important ones as well as the relationship of electric power to industrial locations and specific industries should be made subjects for continuing study. The ratio of thermal to hydro plants and their balance with industry as well as the network routing have been already proposed as a project. Some of these questions should have been included in our "inventory of ignorance" both in list and map form instead of merely stating it is one of our serious weaknesses. Actually considerable progress has been made in this direction starting with the 1943 and 1944 German intelligence listings and maps which were fairly complete at the time and show reliable lists and maps comprising about at least one-half or more of the present day capacity and important plants including types. The "salt mine" lists and locations and more recent studies probably show one-half of the remainder known to date. This would emphasize the gaps in our present information on this particular phase of the subject and furnish a background for plotting routes and networks.

4. (a) On the question of "Utilization" or requirements the report states that "there are actually no postwar definitive figures available" and further that little is known as to the present consumption or allocation pattern i.e. the proportion of electricity used by industry, by electric railroads, by agriculture, municipalities, home use, and other categories. The report does not show, and in fact completely ignores, the only relatively sound estimate in this respect made to date, namely IM-181. This report is still as good perhaps on the question of utilization both as to techniques and content as any which is likely to be written for some time to come. It contains a review of all the work done in the past as well as a combination thereof with a direct determination of electric power requirements of the USSR for agriculture and transportation. The references on allocation show a fairly uniform pattern with respect to percentage distribution over the past 20 years for industry generally in comparison with the other broad categories of the economy. It would appear that until such time as better techniques and data are available, or a closer approximation can be made or the data presented in IM-181 is refined and brought up to date it should be considered as the foundation step in the series of successive approximations required to consolidate the subject. This viewpoint is particularly important in view of the recognition in the Task Force I report that "it is unlikely that there will ever be any specific figures" on the required electrical load for any industry or other category of consumers.

(b) The proposal of determining requirements by unit consumption of electricity per pound or ton of product, or man hour of labor, or ton kilometer (or other electrical energy equivalent) is, of course, sound for a specific industry. However, it is not a substitute for the overall approach to a solution of the problem, but is supplementary to it. Nevertheless, it should be undertaken in collaboration with the various sections on petroleum, chemicals, iron and steel, various manufacturing industries, and others:

Moreover, solution of these problems in one direction usually reflects light in the other direction. Also for quick solutions of these problems there is no reason why U.S. data cannot be used in the major industries as the processes used are close enough for this purpose. The final solutions will be arrived at on the basis of successive approximations rather than on the assumption of obtaining the perfect solution in the distant future. The latter, a priori cannot be achieved and acts as a deterrent for less desirable but at the same time entirely satisfactory solutions.

5. The preparation of a map of power stations and networks, in relation to vital industries, would go far in solving the question of vunerability. This also is a matter of degree and it is believed that there is sufficient information on the subject to warrant a special study now rather than await the ultimate solution in the distant future.

6. As already indicated, about twice the space has been devoted to the subject of Electric Power in the Urals as that given to the general subject. This area is most important, but as pointed out previously, electric power requirements in the Urals is only 15 percent to 20 percent of the total. This area is not unique in comparison with industry concentration west of the Urals from the viewpoint of electric power requirements unless one would generalize that the proportional output of certain basic raw materials (particularly metals) is apparently greater here than the proportional consumption of electric power. This situation, of course, is inherenent in the nature of the particular industry or process, and this case is largely a question of the relative volumes of metallurgical versus manufacturing industries. On the other hand this concentration of industry extends only a relatively short distance east of the Urals and can be considered as a part of the relatively heavy concentration of industry which lies mostly west of the Urals and which is generally coextensive with the railroad network. In any event there is too much emphasis on an area consuming less than 20 percent of the total electric power, and too little material on the important phases of the overall industry.

7. It is believed that there is a considerable body of information on electric power in the USSR although as usual there are many gaps. Also, there is a high degree of engineering skill available to interpret the available information, but a bolder approach to the problem would yield much more useful results immediately without sacrificing substantive value and content.

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